ANALYZING THE INFRASTRUCTURE, SETTLEMENT, OCCUPATION, AND ENVIRONMENTAL ISSUES OF MUNROE ISLANDERS, KOLLAM, KERALA

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Introduction

Earth is home to over 100,000 islands, which support 20% of global biodiversity. The characteristics of size, shape and degree of isolation make many of these islands ecologically and culturally unique.

Island ecology is the study of island organisms and their interactions with each other and the environment. Islands account for nearly 1/6 of earth's total land area, yet the ecology of island ecosystems is vastly different from that of mainland communities. Their isolation and high availability of empty niches leads to increased specialization. As a result, island ecosystems comprise 30% of the world's biodiversity hotspots, 50% of marine tropical diversity, and some of the most unusual and rare species. Many species still remain unknown.

The diversity of species on islands is highly impacted by human activities such as deforestation and introduction of exotic species. In response, ecologists and managers are directing attention towards conservation and restoration of island species. Because they are simple systems, islands provide an opportunity to study processes of extinction that can be extrapolated to larger ecosystems.

Islands are attractive sites for ecological research because they provide clear examples of evolution in action. They show interesting patterns of colonization, adaptation, and speciation.

An island or isle is any piece of sub-continental land that is surrounded by water. Very small islands such as emergent land features on atolls can be called islets, skerries, cays or keys. An island in a river or a lake island may be called an eyot or ait, and a small island off the coast may be called a holm. A grouping of geographically or geologically related islands is called an archipelago, e.g. the Philippines.

An island may be described as such despite the presence of an artificial land bridge, for example Singapore and its causeway, or the various Dutch delta islands, such as Ijsselmonde. Some places may even retain "island" in their names for historical reasons after being connected to a larger landmass by a wide land bridge, such as Coney Island and Coronado Island, though these are strictly tied islands. Conversely, when a piece of land is separated from the mainland by a man-made canal, for example the Peloponnese by the Corinth Canal, it is generally not considered an island.

Study area

Munroe Island is located at the confluence of Ashtamudi Kayal and the Kallada River, in Kollam district, Kerala South India; it is a tourism destination. The serene place is named in memory of Resident late Colonel John Munro of the erstwhile Princely state of Travancore. It is also known as Munroothuruthu, Manrothuruthu and Munroethruthu. The place is named in honour of Resident Colonel John Munroe of the former princely state of Travancore. During his tenure, Munroe oversaw the land reclamation efforts in delta where Kallada River joins Ashtamudi Lake and the reclaimed island was name after him as Munroe Island. It is situated at a distance of 25 kilometres (16 miles) from Kollam by road. It is 71 kilometres (44 miles) by road from Thiruvananthapuram (Trivandrum) airport. The place is surrounded by Kallada River & Lake Ashtamudi and is accessible by road, rail and inland water navigation. The island village is a tourism friendly village where one can watch coir retting process, coir weaving, fishing, prawns feeding, migratory bird watch, narrow canals and waterways, coconut farms on the lake shore, lagoons, kandal plants and the beautiful tiny islands of Pathupara. The island measures 13.4 square kilometres.

Munroe Island, locally known as Mundrothuruth, is an amalgamation of eight small islands in the archipelago of Islands of Kollam. It is a typical backwater island village of Kerala located at the confluence of Ashtamudi Lake and the Kallada River, in Kollam district. The island extends from 900'0'' N to 76035'0'' E to 900'0'' N to 76040'0''E. As per 2011 census, Mundrothuruth has a total population of 9599, consisting of 4636 males and 4963 females.

Mundrothuruth Panchayat is under the Chittumala Block division consisting of 12 wards. The area is surrounded by the Ashtamudi Lake and Kallada River and their tributaries. Northern boundary of the Panchayat is covered by west Kallada, north east part by east Kallada, east by Perayam, south east by Perinad, south by Panayam, south west by Thrikkaruva and the western part is covered by the Ashtamudi lake.

Objectives

1. To identify the available infrastructure of the island.
2. To analyse the environmental problems in the island.
3. To identify the occupational status and livelihood of the people in the island.
4. To establish the relationship between increasing trend of empty houses and decreasing trend of population.

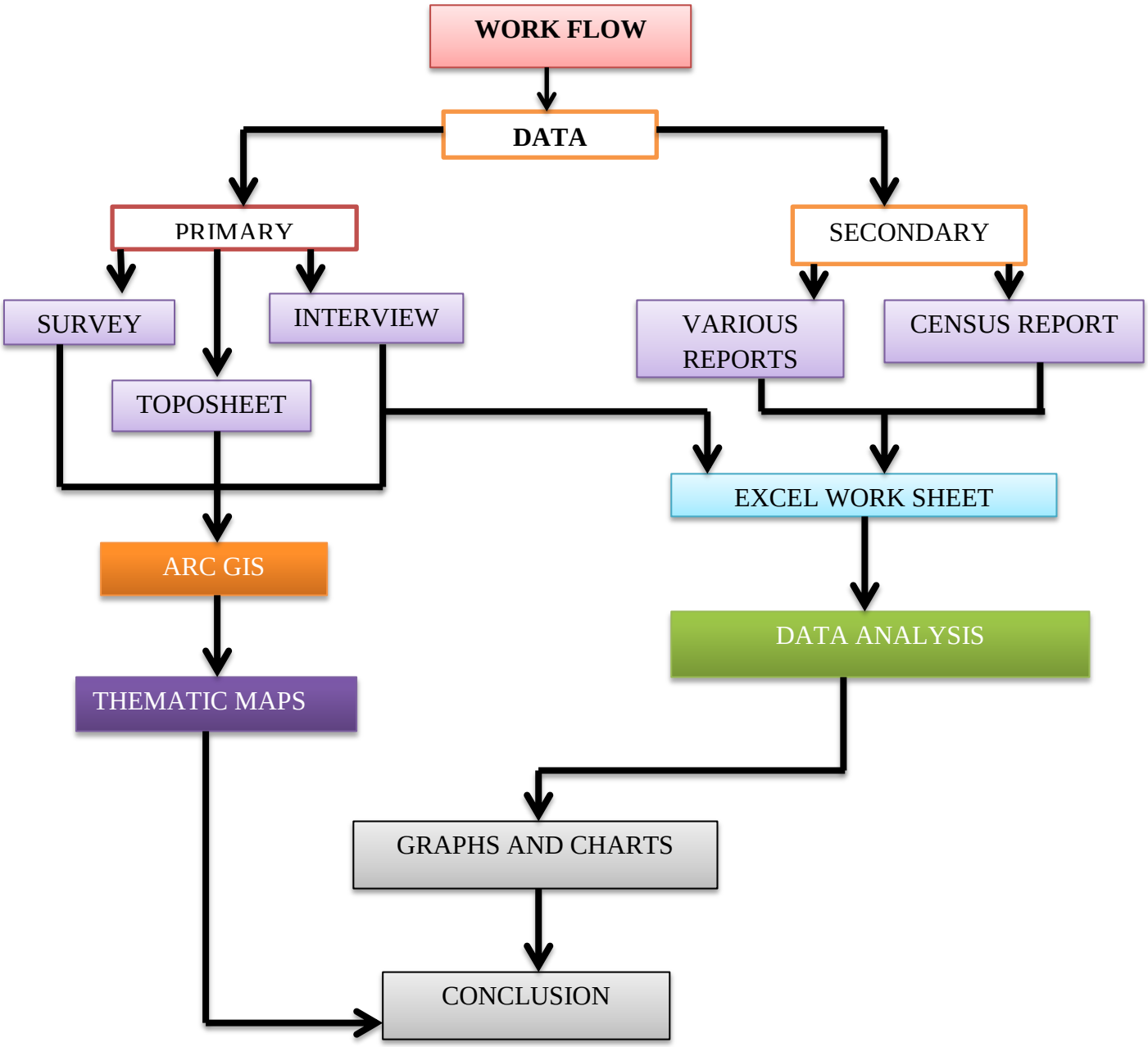
Methodology

Both primary and secondary data are used for the study. Primary data are source of data collected as firsthand information where the secondary data are second hand information. Primary and secondary data sources are the key stone for conducting and analyzing a group of information about a particular topic in detail.

Primary data are collected through field survey, interview, questionnaire, toposheet and sample selection. Field survey is conducted for collecting the samples for water quality testing, to collect data regarding the issues in the island etc. Interview can be done for collecting information from the Panchayat officials, village officials and peoples. Questionnaire can be used to collect data about the infrastructure, social and cultural aspects. Toposheet is used to represent the map and map features.

Secondary data include various types of data collected from the census reports, newspapers, magazines, channel reports, NGO reports, periodicals, expert committee reports etc.

Methodology Chart



Review of literature

Russell King (2009) examines the changing role of islands in the age of globalization and in an era of enhanced and diversified mobility. There are many types of islands, many metaphors of insularity, and many types of migration, so the interactions are far from simple. The 'mobilities turn' in migration studies recognizes the diversification in motivations and time-space regimes of human migration. After brief reviews of island studies and of migration studies, and the power of geography to capture and distil the interdisciplinarity and relationality of these two study domains, the paper explores various facets of the generally intense engagement that islands have with migration. Two particular scenarios are identified for islands and migration in the global era: the heuristic role of islands as 'spatial laboratories' for the study of diverse migration processes in microcosm; and the way in which, especially in the Mediterranean and near-Atlantic regions, islands have become critical locations in the geopolitics of irregular migration routes. The case of Malta is taken to illustrate some of these new insular migration dynamics.

Sitaram Nagaraj (2014) says about the impact of urbanization on the Ashtamudi Lake in the Kollam District of Kerala. It is a palm-shaped extensive water body with eight prominent arms, adjoining the Kollam town. This extensive estuarine system has a length of 16 km with a maximum width of 14 km and maximum depth up to 6.4m covering an area of 64.2 km2. The Ashtamudi Lake has been designated as a Ramsar Site (No.1204) in November 2002 and is also a major tourist place. It supports around 43-marshy mangrove species, 57-species of birds, 97-species of fishes and some unique copepod species which are important sources of food. More than 20,000 waterfowl visit the lake annually. Coconut husk retting, fishing, inland navigation and a fishing harbor at Neendkara are other benefits provided by this lake. The case study describes the effect of urbanization on water quality parameters and suggest for its improvement. The water spread area for Ashtamudi Lake in these three years are found to be shrinking (1999 – 6424 ha, 2003 – 6140 ha, 2006 – 5734 ha). The detailed physico-chemical and biological examinations are collected for three years (1999, 2003, and 2006) made during pre-monsoon season for various locations and their average values are reported. A comprehensive plan is prepared to restore the water quality of Ashtamudi Lake near the Kollam City.

The Aajeevika livelihood study (2001) undertakes a detailed analysis of the problems facing rural livelihoods across Rajasthan. An extensive field survey was carried out in four

blocks, each from a different socio-ecological region, representing the diversity in livelihood options and constraints facing the rural population in the State. The survey, carried out from September 2002 onwards was spread over a period of ten months. The study provides an overview of the rural economy of Rajasthan, assessing the overall livelihood scenario in the State and identifying the chief livelihood options available to various sections of the rural community. In particular, the important livelihood sectors are studied and the main livelihood strategies adopted, especially by the poorest sections of the rural population, are reviewed. Based on a detailed analysis of the findings from the field surveys and from an assessment of overall employment scenario in the State, a set of recommendations are suggested for improving livelihood options, especially for the poorest and most vulnerable segments of the rural community. In this context, the role of the government initiatives in addressing the problem of income generation in rural areas is reviewed. This analysis clearly points to the need for rethinking rural poverty alleviation in the State. Thereafter, a set of recommendations is provided for strengthening livelihood options especially for the rural poor across Rajasthan, along with suggestions for operationalizing key recommendations by identifying the primary stakeholders and specifying the broad guidelines for an action agenda for implementation. An important finding from the Aajeevika study is that even at the current conjuncture, caste identities and access to social and political networks are important factors governing access to productive livelihoods. In this context there is an important role for education in helping individuals overcome such barriers and constraints. In addition, the study identifies migration as another important strategy, used especially by the backward and poor sections in the rural economy, to gain access to productive livelihoods and break away from social oppression.

Wilkinson, P. F. (1997) , in his article titled “Tourism policy and planning: case studies from the Commonwealth Caribbean” addresses two issues: it provides both qualitative and quantitative analysis of the varying nature of a set of case study islands as tourist destinations in order to account for their diverging patterns of tourism development; and a comparative analysis of the alternative styles of local government and local community involvement in tourism decision making and modes of tourism development is presented. The research was undertaken from 1989 to 1995 through a multi method approach: literature review; on-site investigation of both tourism policies and plans; discussions with local academics, consultants, politicians and private sector decision makers; and analysis of existing tourism data provided by individuals, island governments and regional agencies.

Data include each case study's history of tourism policies and plans, detailed visitor statistics, the nature of the tourism infrastructure and superstructure, economic indicators, degree of involvement and employment through the five case studies: Dominica, St Lucia, Cayman Islands, Barbados and Bahamas.

Organization of chapters

The present study is organized into six chapters. The first chapter explains the conceptual background of the study including the significance of study area, objectives, scope, review of literature and limitations. The second chapter explains the study area in detailed. It includes the human, social and cultural aspects of the present study area. The third chapter analyzes the infrastructure facilities of the study area. Fourth chapter explains the various environmental issues. Fifth chapter identify the occupational and livelihood of the people in the area. The last chapter, i.e., chapter 6 explains the relationship between increasing number of empty houses and decreasing trend of population.

References

- C Murray Austin, Rex Honey, Thomas c. Eagle, (1987), Human Geography, West Publishing Company, USA, ,ISBN 0-314-85216-6, pp 120-159
- Godfrey Baldacchino & Eric Clark (eds.) (2013), Special issue: Islanding Cultural Geographies, Cultural Geographies, Vol. 20, No. 2. London: Sage. Pp. 129-242; 257-265. ISSN: 1474-4740.
- Gordon Marshall (1998), “Occupational Structure” A Dictionary of Sociology.
- Jain,P.K (1996) Hydro geochemistry and Ground Water Quality of Sringeri River Basin, Chattapur, MP. Poll. Res. 15(4) Pg. No 407-409.
- Joshua John Green (2013) Music-making in the Faroes: The experience of music-making in the Faroes and making Metal Faroese. Torshavn, Faroe Islands: Sprotin. 332pp, ISBN: 978-99918-76-55-9.
- Lilian Yamamoto & Miguel Esteban (2014). Atoll island states and international law: Climate change displacement and sovereignty. Heidelberg, Germany: Springer-Verlag. ISBN: 978-3-642-38186-7.

- Peter Rudiak-Gould (2013). Climate change and tradition in a small island state: The rising tide. Abingdon: Routledge. 226pp. ISBN: 978-0-415-83249-6.
- Siddique (2012), Environmental Problems in 21st Century, Signature Books International, Delhi.

Journal reference

- Antony Mano Mohan, Ignatius J, (2016)A Hydrological Study of Ashtamudi Lake, Kerala, India with Special Reference to its Ecological Difference, International Journal of Science and Research (IJSR) ISSN (Online): 2319-7064 Index Copernicus Value (2013): 6.14 | Impact Factor (2015): 6.391.
- Balia Silvia, Jones M Andrew. Mortality, Lifestyle and Socio-Economic Status. HEDG Working Paper 05/02. ISSN 1751-1976. June 2005.
- Berringer Andrea C.S, (2011), Climate Change And Emigration: Comparing "Sinking Islands" And Jamaica, Miradas En Movimiento Special Vol. January 2012: (125-141).
- C. Shakir, A. Manilal, M. Jayakumar, S. Sujith, J. Selvan, (2010), Current Status of Shrimp Farms in the South Western Coast (Manroe Island, Kollam) India, Iranical Journal of Energy and Environment 1(4):287 – 292,2010, ISSN 2079-2115.
- Catherine Linard, Marius Gilbert, Robert W. Snow, Abdisalan M. Noor, and Andrew J. Tatem, Population Distribution, Settlement Patterns and Accessibility across Africa in 2010, PLoS One. 2012; 7(2): e31743, Published online 2012 Feb 21. doi:10.1371/journal.pone.0031743
- Cinner JE, Bodin O (2010) Livelihood Diversification in Tropical Coastal Communities: A Network-Based Approach to Analyzing 'Livelihood Landscapes'. PLoS ONE 5(8): e11999. doi:10.1371/journal.pone.0011999
- Collard, A. Settling Up Towards A Strategy For Resettling Homeless Families, London Housing Forum, London, 1997.

- Dewy, John (1944)[1916], Democracy and Education, the free press. pp 1-4, ISBN 0-684-83631-9.
- Dwyer Michael and Stave Krystyna, Modeling the Relationship between Population and Land, Development under Changing Land Use Policies.
- Gupta Pamila (2015), Futures, fakes and discourses of the gigantic and miniature in 'The World' islands, Dubai, Island Studies Journal, Vol. 10, No. 2, pp. 181-196
- Hazra Sugata, Ghosh Tuhin, DasGupta Rajashree and Sen Gautam (2002), Sea Level and associated changes in the Sundarbans, Science and Culture (ISSN 0036-8156), Vol 68, no 9-12, , p 309-321
- K. P. Rajesh, (2009), Three New Bryophyte Records for Andaman Islands, India, Taiwania, 55(2): 172-176, 2010
- King Russell (2009), Geography, Islands and Migration in an Era of Global Mobility, Island Studies Journal, Vol. 4, No. 1, pp. 53-84
- Owe Ronstrom, (2009), Island Words, Island Worlds: The Origins and Meanings of Words for 'Islands' in North-West Europe, Island Studies Journal, Vol. 4, No. 2, pp. 163-182
- Sasidharan. C.K, Sivanandan P, Ecotourism for Inclusive Growth: A Case Study of Ashtamudi Lake.
- Sitaram Nagaraj, Impact of Urbanization on Water Quality Parameters – A Case Study of Ashtamudi Lake Kollam, IJRET: International Journal of Research in Engineering and Technology eISSN: 2319-1163 | pISSN: 2321-7308, Volume: 03, Special Issue: 06, May-2014.

Reports

- Aajeevika - Livelihoods in Rajasthan: Status, Constraints and Strategies for Sustainable Change, by ARAVALI (Association for Rural Advancement through Voluntary Action and Local Involvement), 2001.

- An expert team from the Thangal Kunju Musaliar College of Engineering, Kollam. The team headed by Prof. Gouri Antharjanam, and consisting of Prof. Suniil Kumar, Prof. Sirajudeen, Prof. Sruthi. R. Krishnan, Prof. Amal Azad and Prof. Udayakumar
- BIS (1991), Indian Standard Specification for Drinking Water, Bureau of Indian Standards, New Delhi.
- Census report 2001 and 2011
- Central team study on Munroe Island's Environmental Issues by Centre for Science and Environment (CSE) New Delhi.
- District Census Handbook – Kollam (Village And Town Directory), 2011
- Fish Adapt -Global Conference on 'Climate Change Adaptation for Fisheries and Aquaculture" in Bangkok from 8 to 10 August 2016
- Jurisdiction project on Lakshadweep, 2007.
- Panchayat level statistics -2011, Kollam district
- Saidhur Rahman and Junior Davis (2005), A Survey of Rural Livelihood and enterprise Development Opportunities in the Chars, Bangladesh by Natural Resource Institute.
- The Emergency Shelter Process with Application to Case Studies in Macedonia and Afghanistan by Elizabeth Babister and Ilan Kelman Literature review for SHELTER AFTER DISASTER, 2010.
- The Kerala Sasthra Sahitya Parishad study on Munroe Island- Environmental Issues.
- Visit to Vembanad Kol, Kerala, a wetland included under the National Wetland Conservation and Management Programme of the Ministry of Environment and Forests, 2008

Newspaper and magazines

- ✓ Expert Committee Report 2015 on Mundrothuruth Island Environmental Issues by Kerala State Council For Science Technology And Environment
- ✓ Madhyamam weekly, volume 19, 2016 February 22.

- ✓ Neelima Parvathi, Posted By : Sabita kaushal, Posted Date : Thu, 2016-08-11 13:40
- ✓ Study on Land Erosion in Munroe Island Urged, Express news service/ publishes:16 Oct 2014
- ✓ TKM starts study on Munroe Island, The Hindu Dated 6-01-2016 Of lives bruised by water

Web References.

- ❖ **http://england.shelter.org.uk/advice/advice-145.cfm**
- ❖ **http://england.shelter.org.uk/policy/policy-825.cfm/ct/1/sb/15/pg/3/plitem/183**
- ❖ **http://tides4fishing/as/india/kollam**
- ❖ **http://www.encyclopedia.com/doc/1088-occupationalstructure.html**
- ❖ **http://www.encyclopedia.com/doc/1088-occupationalstructure.html**
- ❖ **http://www.erdkunde.uni-bonn.de**
- ❖ **https://en.m.wikipedia.org>wiki>Mundrothuruth**
- ❖ **http://wqaa.gov.in**
- ❖ **kstave@ccmail.nevada.edu**
- ❖ **mdwyer@unlv.nevada.edu**
- ❖ **www.ecostat.kerala.gov.in**
- ❖ **www.goodreads.com/quotes/tag/island**
- ❖ **www.nios.ac.in/media/documents/316courseE/ch29.pdf)**
- ❖ **www.shelter.org.uk**
- ❖ **www.weather2travel.com**